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ABSTRACT

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A BRIEF SURVEY

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RECENT RESEARCH ABOUT BRITISH STUDENTS: A BRIEF SURVEY [1]

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Since 1965, there has been an increasing amount of research about British students. Some would applaud this phenomenon, others would be neutral, still others would criticize it. Many in the academic community applaud any research about any topic merely because they think "doing" research is a good thing. Barzun (1960) said, "The very way in which we use the phrase 'do research' implies that it is the act, not the goal, that matters and although few think of research as a pilgrimage for saving their souls, modern society does believe there is salvation in it." Another group of academics are neutral about this increased research claiming that such activities are harmless. Still, others are quite hostile about this increasing amount of research about students, claiming that such findings lead to labelling and stereotyping of students.

A simple and apparently obvious justification for the increased research about students is that the results provide facts which can be used in finding "answers." Although the concept of facts is useful in scientific inquiry, this kind of argument tends to imbue "facts" with a pseudo-objectivity that may breed false distinctions between facts and opinions. Further, facts about students are usually facts about groups of students and, as such, involve bothersome concepts like standard

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[1] Paper delivered at the Society for Research into Higher Education at Aston University in Birmingham on Tuesday, March 25, 1975.

[2] Professor Biggs was attached to the University of Aston in Birmingham for the 1974-75 academic year on a Fulbright Fellowship.

deviation, standard error and probability. Slovenko (1967) has said, "Scientific theory is not a mere collection of facts. Science is not a mechanical record, but a creative activity - 'hard facts' upon examination turn out to be 'soft'." Every statement resolves itself into a matter of opinion. The contention that opinion is inference and that fact is original perception cannot be sustained since the process of knowledge is the same for both. Thus it is not necessarily true that research about British students is justified and valuable simply because it provides facts which are a certain improvement on opinions.

Yet, we are still faced with the situation that accurate information about students is of interest to many of those who make decisions affecting further and higher education in Great Britain. For example, administrators, students and members of academic staff are involved in decisions about present and future policies in their institutions, and one wonders how this growing amount of research on British students could contribute to improving their institutional decisions. Still, to be realistic, if this research is going to have any substantial impact on institutional decision-making, serious efforts have to be directed at the issue of the utility of these findings. Of what use are these research findings? The answer is not obvious to many and researchers need to do more than add short paragraphs at the end of articles which state a few practical implications.

Researchers may need to stop "doing" research about students for a while and attempt to organize this burgeoning amount of research so that findings can be evaluated within some logical framework. A first task would be to clarify how these research findings are related to institutional decision-making. Similarly, Berdie (1972) has said that American

research on students has not contributed to the management and administration of universities because those responsible for planning and conducting research do not become involved early enough in the administrative process as it deals with problem identification and definition. Although Berdie's point is well taken as regards future research about students, there is still the problem of using the research about British students' which has already been completed.

This paper contends that the research findings on contemporary British students provides potentially useful social comparison data for those who are involved in institutional decision-making in higher education. This paper also proposes a brief rationale for organizing the research findings, and gives examples of how some recent studies could be categorized. In an earlier paper (Is Student Dissent All Over: A Look at the British Scene, 1975), the author has summarized research findings and theoretical writings concerning contemporary British student dissent, and this literature is not included in the present review. Also the present paper primarily uses examples of research studies reported during the time period 1965-1975.

A Brief Rationale

Research about British students is valuable because it provides systematic social comparison data which can be used in making institutional decisions. Such social comparison data provides institutional decision-makers with an opportunity to improve their individual evaluations and group evaluations of situations involving students. The effects of research findings about students on institutional decision-making depends on the weight of research findings to old information, the perceived validity of the research findings and old information, and size

of new and old sample groups. Because of these factors it is obvious that similar research findings affect different decision-makers differently. Obviously, research about students can mean something different to different people, because individuals have different histories of opinions about students and they believe these opinions to be correct for different reasons. Some individuals have used subjective criteria for assessing the correctness of these opinions - they just feel their opinions are correct. Others have used social criteria for assessing the correctness of these opinions - people have told them or agree with them that their opinions are correct. Finally, some individuals have used objective criteria for assessing the correctness of these opinions - they have made observations of their own or they may have even read research articles. If research about students is to have an impact on decision-making processes, individual and group histories of opinions must be considered before introducing research findings.

Research findings about British students are not integrated into the decision-making process in some simple or clear-cut manner. The reason being that individuals involved in decision-making have made previous social comparisons of students and as a result of these evaluations, they have opinions about student which to some degree they believe are correct. The kinds of opinions generated by research data about students are basically the same as these opinions generated from individual experiences.

When research findings about students are introduced into decision-making, individual opinions can be compared to opinions based on the research data. If there are discrepancies, we might expect a variety of behaviors aimed at reducing the tensions caused by the discrepancies.

The problem is that decision-makers in such situations are often confronted by conflicting motives of "wanting to avoid anxiety" and also "wanting to know correct information." In spite of this dilemma, research findings about students have considerable potential to influence opinions of decision-makers, since individuals generally tend to prefer opinions which have an objective basis.

Research about British students can be particularly valuable when it provides new samples of students which can be used for social comparisons. Quite simply, decision-makers can compare their opinions based on previous samples of students to opinions generated by different or more representative samples. Research findings about students are also valuable in decision-making when findings present new norms or points of reference for comparisons. To be more specific, research findings about students can improve institutional decision-making by providing: (1) descriptive information about the characteristics or behaviors of students, (2) descriptive information about alternative groups of students and the differences among them, and (3) descriptive information about relationships between present characteristics and behaviors of students and future characteristics and behaviors.

One category of research findings provides social comparison data describing characteristics of present students, and/or factors influencing present student behavior. Studies generate descriptive opinions about present students and usually involve comparing different traits or behaviors of similar groups of students. The trouble is that such descriptive studies usually present partial data about students and so in order to get any kind of complete picture, one must make a variety of comparisons employing less and less similar groups. Still, these studies of student traits and behaviors can be helpful in clarifying

definitions, particularly if different methods of measurement are used.

Another category of research about British students provides social comparison data describing or differentiating groups of students. Such findings highlight similarities and differences among alternative groups of students. Studies usually describe characteristics or behaviors which differentiate groups of students from each other or characteristics or behaviors which differentiate a group of students from student in general.

Finally, the third category of research provides social comparison data concerning relationships between present traits and behaviors of students and certain future behaviors or traits. Studies may compare the relationships of predictor variables and criteria for the same or different groups of students.

The rest of the paper presents some examples of recent research findings concerning contemporary British students which provide (1) present descriptions of student behaviors or traits, (2) descriptions of different groups of students, and (3) descriptions of the relationships between present and future behaviors or traits of students.

Present Descriptions of Student Behaviors or Traits

These studies have described characteristics or behaviors of students, and identified correlates. An independent variable in most investigations is a measure of a student characteristic or behavior. A majority of studies have looked at the characteristics or behaviors of first-year students.

Differences between male and female students have been the subject of a few research studies. The academic progress of male and female first-year university students was compared (McC.Miller, P., & Dale, R.R., 1972). Women when matched with men for attainment at entry and on other relevant

variables made better progress in both Arts and Science faculties during first year. McCracken (1969) found that women did better than men in first-year examinations. But after the first year, men made better academic progress than did women. Occupational values of male and female students were compared on entry and after two years [Smithers 1969(b)]. Overall, female students were found to be more people-oriented, and males were more extrinsic-rewards-oriented and more inclined toward leadership. On entry, female students attached less importance than males in the same subject area to extrinsic rewards, particularly security, but over two years these differences largely disappeared. After two years, the attitudes of female students toward extrinsic reward were closer to those of male students in the same fields. Female students in all fields of study attached less importance than males to exercising leadership both at the time of entry and two years later.

Age differences among students is another socio-demographic characteristic which has also been looked at in some studies. For instance, characteristics of mature students (those who had a break of two years or more between leaving secondary school and re-entering as an undergraduate or in order to gain entrance qualifications to a university) were described (Nisbet & Welsh, 1970). Mature students were from the same section of the population and the same kinds of schools as the younger direct entrants. During their careers at Aberdeen University, they had approximately the same failure and withdrawal rates as the younger direct entrants. About the same percentage of mature students as the younger direct entrants had taken honors degrees or were in honors classes at Aberdeen. More than 60% said they were anxious over "making the grade." Forty percent had financial problems when they began full time study, and only 24% managed on their student grant alone.

Fifty-eight percent of the married mature students were experiencing "strain in their domestic life" as a result of taking up full-time study. The major reason quoted by 55% of them for entering the University was dissatisfaction with their present job. About 53% said they had no difficulty in establishing good relationships with younger students. Very few (23%) were disappointed that the University was not as unique an intellecutal experience as they had expected and very few (18%) admitted that especially in their early months at the University, they found difficulty organizing their time for studies.

Since students on most campuses live in different types of housing, this socio-demographic characteristic has also been the subject of some research. For example, the academic achievement level and wastage among first-year Scottish students at Edinburgh in different types of residences were described (Jones, McMichael, & McPherson, 1973). At each of three ability levels, students who spent the greater part of their first year in lodgings had a lower average level of achievement and a higher wastage rate than either those students who had lived mostly at home or in halls of residence. No differences were found between hall or home students in the average level of first-year achievement, but home students had a higher wastage rate at each ability level. Albrow (1966) after controlling for ability and social background differences of students at Reading, failed to find any differences in first-year achievement between hall and lodgings students.

Educational and vocational characteristics have been the subject of a number of studies on students. Educational values of students at entry to a university and then again two years later were described in two studies [Musgrove, 1968; Smithers, 1969 (c)]. Musgrove found that first-year students placed the greatest weight on intellectual objectives and

somewhat less on development of social and vocational skills. A close correspondence was found between staff and student values. Smithers [1969(c)] later reported that after two years, students' values were predominantly stable. Intellectual objectives like "independence of mind," "understanding concepts," "relating theory to practice" were given greatest weight at entry and continued to be so after two years. Developing wide intellectual interests continued to be deemphasized after two years by all but social scientists. The close correspondence of staff and student values persisted after two years.

First-year university entrants were also asked about their ideas about the student's role (Toomey, 1969). They listed three essential characteristics or qualities of the good university student. For a majority (87%) the good student was one who had the personal abilities and capacities which would bring him success in formal studies and/or a career. Students also listed things which they thought would bring them most satisfaction in being a university student. Sixty-six percent of the respondents mentioned satisfactions derived from participation in the social life of the university, while intellectual satisfactions were mentioned by 57% of the students. Finally, students were asked about what they would dislike most about being a student. Approximately 45% referred to hard work, examinations, or self-discipline.

The question concerning qualities of a good student failed to distinguish between groups of students, but the question about anticipated satisfactions did. Social scientists were more inclined than either physical scientists or engineers to mention intellectual satisfactions and were least inclined to mention instrumental satisfactions, i.e. career references or gaining qualifications. Physical scientists showed the strongest emphasis of the three curricular groups upon social satisfactions.

They were also more likely to mention instrumental satisfactions than were engineers. Engineers were more inclined than the other two groups to mention satisfactions derived from personal development. No significant differences were found between male and female social scientists in their replies to the question concerning their anticipated satisfactions in being a student. As might be expected, those first-year students who had been employed before coming to the university were less inclined to mention satisfactions derived from independence and freedom, and were more inclined to mention intellectual satisfactions.

Among physical scientists, working class students were more likely than others to see instrumental aspects of the student's role as more important. In the case of social scientists, no significant social class differences emerged. With the engineers, more working class students mentioned satisfactions derived from independence and participation in social life than did those students from non-manual homes.

Career orientations of university freshmen was the subject of another study (Musgrove & Child, 1969). First-year science and engineering students completed two scales designed to show their orientations to proposed fields of future employment. These students and 41 entering social science students also completed a questionnaire designed to show their role conceptions, as well as one to discover their choice of reference groups.

In general, students in science and engineering were more "organizational" in their career outlook than "professional." (Individuals who are "organizational" in their career outlook see their primary job as loyalty to the organization for which they work; individuals who are "professional" seek status within their professional group and are committed to their professional ideology). For example, students of physics

and civil engineering obtained highest mean scores on the scale of "professional" orientation and the lowest mean scores on the scale of "organizational" orientation. Students of mechanical and chemical engineering were least "professional" and most "organizational" in career outlook. No significant relationship was found between social class background of students and their level of "professional" or "organizational" outlook. Seventy-four percent of the first-year students said that "being a prospective member of a particular profession" was an important aspect to their life in the next few years, and 79% said that "being a university student" was important.

When students considered whose judgment of their abilities they would value most, greatest weight was attached to lecturers in the university; 93% ranked this reference group first or second. Next were people holding senior positions in the career they hoped to follow, then fellow students, and finally parents. Social scientists were significantly more inclined to attach high value to the opinion of parents and fellow students, and lower value to the opinion of people holding senior posts in the career they hoped to follow.

Major reference groups of first year university students were identified (Musgrove 1967). Approximately 67% said their families were the most important people in their lives, 19% referred to friends, 26% referred specifically to their mother, and 25% referred specifically to their father. No differences were found between males and females in their references to either their fathers, mothers or other members of their family. The vast majority of students, regardless of their social background, thought their parents were supportive of their entering the University.

Educational objectives and job or career attitudes of first-year

Portsmouth Polytechnic students were the focus of yet another study (Oxtoby 1971). The main educational objectives of applied scientists and engineers were very similar, no matter what the student's particular degree course, type of entry qualifications or his experience prior to going to the Polytechnic. All groups of students attached great importance to education which would provide vocational training, and which would enable them "to apply fundamental knowledge to new problems in practical situations" and allow them "to develop the ability to base judgments on evidence and not simply on authorities." Students attached least importance to objectives such as (1) enable me to make better use of my leisure time in later life and (2) to develop knowledge and interest in community and world problems. Surprisingly, students who had been to an independent or grammar school were much less likely to value higher education which enabled them to either learn more about themselves or that which provided a basic general education than those students who have not attended such schools.

Polytechnic students in applied science and engineering seem to agree as to what values are important to them in a future job or career. Many of these students placed great emphasis on intrinsic, performance oriented job rewards, i.e. enable them to use their special abilities and qualifications as well as on extrinsic rewards, i.e. "enable them to look forward to a stable secure future." Students straight from secondary school were more interested in earning good money and less interested in the chance to be creative than were those students who had spent some time in full-time employment.

First-year university students indicated the extent to which a job or career would have to satisfy ten possible requirements [Smithers 1969(c)].

When field study was controlled for differences between male and female, responses were minimal. Occupational values of applied scientists and engineers were very similar, but they differed sharply from those of students in arts and social science, and pharmacy and optics. All groups of student except the pharmacists and opticians attached greatest importance to making use of their special abilities in their future careers. Applied scientists and engineers also attached great weight to earning good money and being able to look forward to a stable secure future. In both these ambitions, they differed significantly from students of arts and social science.

A number of researchers have looked at different personal and social characteristics of students. For instance, problems of a sample of students during their first year and then again 18 months later were compared (Musgrove, 1969). Academic study problems were checked most frequently in the first year and in the third year, homesickness and college rules and regulations were least frequently checked on both times. In the third year, more men were overwhelmed by academic work, troubled by thoughts of exams, and bored by some of their work, but fewer felt unsure of their abilities, fewer had accomodation problems, and fewer were troubled by the attitudes of lecturers. During the third year, more women reported academic study problems, and fewer reported problems related to interpersonal relationships. No greater number of Sandwich students in the third year than in the first year felt overwhelmed by academic work or by the thought of exams. During the third year, fewer Sandwich students were bored by their work and fewer felt they were not working as hard as they should. During the third year, Sandwich students expressed more concern about future career prospects. Finally, students

in science and technology were more often worried on all counts than were the students in arts and social sciences.

A religious attitude scale and a questionnaire concerning religious activities and beliefs were administered to university students in their first year and then again in the third year (Pilkington, Poppleton, & Robertshaw, 1965). Third-year students at a training college also completed the scale and questionnaire. During the two years at the university, the students declined significantly on four out of seven indices of religious activity and attitudes. Results show that women university students over two years moved away from religion more than had the men. Moreover, by the third year, women university students were significantly more religious than the men on only one index of religious behavior whereas in the first year all seven revealed significant sex differences. Students within the Faculty of Arts (predominantly women) showed significant decreases in religious practices and attitudes. Non-conformist and Roman Catholic students declined more in their religious attitudes and beliefs than did Church of England students.

A test of maturity was administered to students in a women's college of education and three factors in maturity were identified: (1) capacity for realistic thought and self-appraisal, (2) an ability to take a long term view and (3) independence and self-control under stress (Shields, 1972). The type of secondary school attended prior to college entry (single sex or co-educational) had no significant effect on maturity test scores of first-year students. However, mean test scores of third-year students who attended co-educational secondary schools were significantly higher than those who attended single sex schools. No significant difference was found between mean test scores of third-year and first-year students who attended single sex schools. Third-year students who had

been to co-educational secondary schools had significantly higher scores on the maturity test than first-year students from co-educational secondary schools.

Results also showed that test scores of third-year students were significantly higher than those of first-year students, and that maturity scores were not influenced by type of course followed in college. The conclusion from this study was that those students who attended single sex secondary schools and then attended an all women's college made less growth in maturity than those from co-educational schools.

First-year students who scored high (top 1/6th) and low (bottom 1/6th) on a measure of authoritarianism were compared (Dunham, 1973). Over half of the high authoritarians were engineering students, and about 25% were mathematicians and pharmacists. Almost one-third of the low authoritarians were sociologists and one-fifth were architecture students. However, architecture students had the widest range in scores on the measure of authoritarianism. Only one sociology student was in the high authoritarian group.

Some descriptive information about the social and political convictions of students during their first year and third year in a technological university was provided in another study (Child, 1969). The Eysenck Social Attitude Scale which measures the extent of an individual's radical/conservatism attitudes and tough/tendermindedness attitudes was administered at entry and then two years later. At both times, women were more "tenderminded" than men. Both men and women were more "radical" after two years at the university. Science and technology students were more "conservative" than the social scientists both as freshmen and two years later. At entry, students from middle class homes were less "radical"

than those from working class homes. After two years, this distinction was not significant.

Descriptions of Different Groups of Students

These studies focus on describing differences between identified groups of students. Researchers may compare particular groups of students to each other or they may compare a group of students to a reference group of students in general.

One way of differentiating groups of students is to develop a psychological or sociological typology. In the United States a popular typology was developed by Clark and Trow (1966) who identified four student subculture and role orientations - academic, collegiate, nonconformist, and vocational. Similarly, two British researchers (Cohen & Toomey, 1973) have identified five student role orientations:

(1) The Social-Intellectural Role Orientation - a student who takes part in university life outside the classroom, whose social life is largely within the university, who enjoys the intellectual life of the university and spends a lot of time outside of lectures in social contact with fellow students.

(2) The Social-Fun Role Orientation - a student who comes to the university primarily to have a good time, spending much of his out-of-class time in social contacts with fellow students. He describes himself as popular with the opposite sex and a good mixer, and he is not given to spending a lot of time in solitary study.

(3) The Vocational Role Orientation - a student who primarily comes to the university to obtain a qualification in preparation for a successful career. He cares more for getting his degree than for fundamental values.

(4) The Academic Role Orientation - a student who has the capacity to tackle both work and examinations successfully, expressing a great interest in his chosen work.

(5) The Reformer Role Orientation - a student who spends a considerable amount of time thinking about and discussing social and political reform. He believes that working on his own is more valuable than attending lectures.

Females score higher than males on the two Social Roles, while males score higher on the Vocational Role. Social scientists score higher on the Reformer Role Orientation than did life scientists, physical scientists or engineering scientists. These authors concluded that the Social-fun Orientation most closely qualified for consideration as a student sub-culture because of the distinctive normative values which distinguish it from other university groups.

Some differences among first-year students in different courses at a university have also been identified. Students reading for science prefer work which provides opportunities for dealing with things rather than people; they rate themselves as convergers, achieve well in the verbal ideational divergent thinking tests, do not desire work which offers adventure but prefer work to offer a chance of being original, and finally they tend to be introverted. There was no suggestion that I.Q. scores were associated with a science bias. Social science students tended to be neurotic introverts, with no desire to exercise leadership, but have preference for work which offers "supervised adventure" (Child & Smithers, 1971).

Third-year male physical education students and a sample of third-year males in general courses were compared (Hendry & Whiting, 1972).

Physical education students tend to be mesomorphic, stable extroverts with driving expressive social responses and authoritarian attitudes, as compared with the students following general courses. Students whose ideal or probable choice of a career was teaching were more likely to come from working class families than other students. The "teacher" group was also significantly more people oriented at time of entry and two years later than were other students (Cohen, 1969).

Davis and Satterly (1969) compared the personality characteristics of female student teachers of "high" and "low" rated teaching ability. The characteristics associated with low teaching ability were most clearly differentiated. On the 16PF personality test, poor student teachers were less conscientious and persistent than their more successful counterparts, tenderminded and sensitive, prone to feelings of insecurity and timidity, and liable to be tense, excitable and restless.

The mean level of neuroticism of entering business students at a university was higher than that of the general population, but similar to that of other university students (Smithers, 1969). The mean neuroticism score on the Eysenck Personality Inventory was significantly higher than that of successful businessmen. Business students were less introverted than the student norm. Business students tended to come from a higher social class background and to come from a wider geographical area than students in other courses and they were also better qualified at entry than were other students. On entry to the university, business students attached greatest importance to the extrinsic rewards of work such as good money and security and also to the opportunity for self-expression.

In a follow-up study (Hornsby-Smith, Newberry, & Hart, 1973) characteristics of course-changers and potential course-changers, three groups were compared: (1) former grant recipients who had changed their course while at the university, (2) former grant recipients who now wished they had changed their courses while at the university, and (3) a control group consisting of all other recipients. Forty-six percent of the controls, 49% of the potential course changers and 62% of the course changers were strongly recommended by their head teachers as worthy of grant support. Course changers and potential course changers were distinguished from the controls by a less voluntary pattern of subject specialization in the schools, by a later choice of a university course, and by a smaller influence of career intentions on the choice of a career. Course changers obtained a much higher proportion of "good honors" awards, and a much higher proportion of them expressed high levels of job satisfaction in their careers several years after graduation as compared with potential course changers. The academic performance of course changers was generally above average.

A national study of Polytechnic students showed that 67% of the students had applied for a university place (Robinson, 2-21-75). Seventy percent of those students under 25 years of age had attempted to enter a university and 44% of the students over 25 years of age had applied to a university. A large number of the Polytechnic students who had applied to a university first, went to the Polytechnic because they did not obtain "A" level grades required for acceptance on a university course. A consistently higher proportion of those Polytechnic students who had applied to a university possessed characteristics usually associated with "average" university undergraduates, i.e. 18 year old school

leaver with father in a non-manual occupation and had been educated in a grammar, direct grant or public school.

The characteristics of students entering the Universities of Sussex and Essex in 1966 were compared (Oxtoby & Smith, 1969, 1970). (Sussex tends to sponsor, at least in the Arts, something akin to liberal education. Essex, notwithstanding a first year program emphasizing the study of several related subjects, remains committed to fairly intense specialization.) The two groups of students were found to be quite similar as regards age, sex distribution, social and educational background, and educational and vocational objectives. At both universities, students in the Humanities and Social Sciences showed most evidence of "tolerance of ambiguity" and students in Mathematics and in Physical and Biological Sciences showed the least such tolerance. Overall, Sussex students showed more "tolerance of ambiguity" and more evidence of racial tolerance.

Descriptions of the Relationships between Present and Future Student Behaviors or Traits

A third group of studies often has to do with predictions. Usually investigations have involved predicting criterion behaviors such as academic success, academic persistence or academic failure. Several problems have arisen in these studies, first the criterion may be poorly defined and difficult to reliably measure, and second, since correlation or regression methods are often used, the findings tend to be misinterpreted by those who assume that such regularities reflect causality.

Miller (1970) completed an extensive review of research about student characteristics and academic performance. In the studies reviewed the criteria of academic failure have included (1) failure to attain any formal qualification, (2) failure to graduate in minimum time, (3) failure

to graduate with some delay, and (4) failure in first or subsequent years. Other studies have used wastage criteria such as (1) percentage of students failing to complete a course or a year, (2) failure of students to remain in one particular institution until graduation, and (3) failure to transfer to another institution to complete a qualification.

Miller cited a University Grants Committee Report of 1968, which showed no great changes in overall wastage rates in ten to fifteen years, that scientific and technological faculties still have the highest proportion of failure, and that the greater amount of wastage occurs in the first year. He cited a small number of studies which show that such variables as age, size of family, social class, place of residence while a student, and peer relations have little correlation with academic achievement. For example, in a study of students who left University College, London without obtaining a degree, no significant differences were found between graduate and failure groups in age, nationality, religion, whether or not they were evacuated from their homes to the country or abroad during the War, whether or not they had done National Service training, number of siblings, place of residence while at the University, estimated time spent on games, sport or union activities, questions relating to childhood happiness, parental harmony or discord and childhood discipline. Miller also cited a study of engineering apprentices showing little evidence that lack of ability was responsible for high failure rates in technical colleges.

Miller argues that, even though ability and social class are influential in whether a student finds a place in higher education, once there, the influence of these variables appears to be less marked. For instance, in some research reviewed, it was noted that students of extremely high ability failed or dropped out inordinately. Students of IQ 130 plus, the top four percent in ability, accounted for 20% of the wastage in one university, while

students of only average ability, IQ of 105, at about the 55th percentile, sometimes attained degrees.

Results of research about academic performance and wastage have been inconsistent in several cases (Miller, 1970). The relationship between anxiety and academic performance or finance and academic performance are not clear. For most students, anxiety appears to make academic learning more difficult. Yet for some students of higher ability, it seems to be facilitating, and some students actually do well undergoing severe stress. The research also seems to show that student finance, like ability, is a threshold variable. Given a minimal amount of finances, success is possible if students have certain other characteristics.

A number of research studies have looked at student variables in academic performance and have yielded rather consistent findings (Miller, 1970). Interest, curiosity, aspirations, and study habits of students consistently stand out as important characteristics of students related to academic performance and wastage. For instance, it was reported that dropouts frequently say they are not interested in or are tired of being students, and that interest in chosen courses is positively correlated with favorable examination results. Study habits and attitudes toward study have been found to differentiate between high and low achievers in college even more than methods of study. Finally, children from homes that are democratically run, where decision-making is not concentrated in one person, and where initiative and self-reliance are encouraged tend to stay on longer in school.

Entwistle (1972) summarized some recent research concerning personality and academic attainment. He also reported on a follow-up of a group of some 2600 students from twenty different British institutions which showed interesting differences in the relationship of personality and academic

attainment between areas of study. For example, neurotic introverts apparently make good engineers, but stable introverts do better in the pure sciences. Neurotic introverts are also good at languages, but stable introverts make better historians. Among social science students, the correlations between both personality dimensions (neuroticism and introversion-extroversion) and attainment were near zero. Entwistle concluded that it was dangerous to assume wide generality in statements about the relationships between personality and academic attainment.

Wilson (1971) looked at the relationship between a composite "symptom" score of entering students and first year academic performance. Four symptoms making up the composite score were (1) headmaster's estimate of the student's capacity to take an Honors degree, (2) number of Scottish Certificate of Education passes at the first setting, (3) student's level of aspiration as expressed by his intention to study for an Honors or Ordinary degree, and (4) introverted-extroverted personality. Surprisingly almost half of the students entering Aberdeen University in 1967 could be regarded as "at risk" of failing first year on the basis of these symptom scores. Also he reported that a high level of academic performance was more successfully predicted than a low level.

A few sociological and psychological factors associated with dropping out of a technical university have been identified (Cohen & Child, 1969). In one year, 13% of entrants dropped out or withdrew. Seventy-eight percent withdrew for academic reasons and the rest said they withdrew for personal reasons. Students in Engineering and Technology showed the highest withdrawal rates and Social Science students showed the lowest. Dropouts generally reported a greater degree of worry about academic work, boredom over some aspects of their course, uncertainty about career prospects and more financial

worries than successful students. Dropouts were significantly less satisfied with the career of their choice than were non-dropouts.

Some characteristics of graduates in Social Science and Health Science were compared (Smithers & Batcock, 1969). Among Social Scientists, there was a significant tendency for students from working class backgrounds to be overrepresented among those obtaining good degrees and underrepresented among failures. A similar but not statistically significant trend was discernible among Health Scientists. Introversion was significantly related to a superior performance in the Social Sciences but not in the Health Sciences. Openmindedness was positively related to academic success in the Social Sciences while performance in Health Sciences was independent of the level of dogmatism.

Predicting the performance of university Chemistry students was the subject of another study (Sherwin & Child, 1969). First-year university examinations were used as the criterion. Results indicated that students with "A" level mathematics have the best chance of success. However, all-around achievement in the Sixth Form was generally more important than individual competence in chosen subjects.

Researchers have also tried to predict psychiatric criterion behavior. For example, significant characteristics of first-year University of Edinburg students who later developed psychiatric disorders while at the University have been identified (Kidd, 1965). The prevalence rate for psychiatric disorders among 1555 first-year students for one academic year was 9% for men and 15% for women. Only two students had been admitted to a psychiatric hospital.

The prevalence of psychiatric disorders was significantly higher for men who did not have a Western cultural background and for men who were colored. Kidd concluded that one way in which illness-prone students can be identified

in the first year is their lack of participation in the non-work aspects of the school curriculum.

First-year women were more prone to develop psychiatric disorders than were men, and women from broken or unhappy homes were particularly vulnerable. Among overseas students, those who were confronted with the greatest ethnic and environmental contrasts were especially illness-prone. Kidd thinks that one of the best ways of finding out which first-year students are prone to develop psychiatric disorders is to ask them about their mental health problems. For instance, significant proportions of those first-year students who said they had previous nervous complaints were subsequently found to have had psychiatric disorders during that period.

Discussion and Conclusion

Obviously this paper does not represent a complete picture of all research which has been done on British students during the last ten years. Some studies have been excluded because of difficulties in interpreting the findings, and some had extremely limited generalizability. To be sure, other studies may have been unintentionally overlooked. However, it is hoped that this short paper might be a stimulus to others who might do a more comprehensive review. For the paper does represent an attempt to develop a rationale and structure for organizing this growing amount of research.

If one assumes that research about students has relevance and utility for others than researchers, you are confronted with several problems. Some are methodological. For example, it would be quite easy to discredit several research studies by focusing on sampling problems. Some researchers were unclear about how their samples were drawn and others inadequately described their samples and the populations. One could also raise questions about statistical methodologies in other studies. Still, in my opinion,

such discussions about methodology or sampling details (even though important) miss the central point. If these problems were solved, would the content or substance of the research findings have any significance?

This paper suggests that research about British students is a rich source of social comparison data and the findings generate opinions which can be useful for comparing and checking purposes. Even though decision-makers can compare their opinions with those based on the research findings, the nature of an individual's or a group's past opinions influences how the research-generated opinions will effect evaluation processes in decision-making.

Now, if researchers want their findings to effect decision-making, more needs to be known about the social psychological characteristics of different kinds of research findings. To merely discuss differences among research findings using only content-based categories begs the question of utility. Three types of research findings can be useful in decision-making: (1) information about characteristics or behaviors of students, (2) information about differences between groups of students, and (3) information about the relationship between present and future characteristics and behaviors of students.

The point of this paper is that there is a pressing need to organize research findings about students in order to increase the utility of the research. Indeed, if these research findings are not organized into some meaningful and simple system based on utility, it is difficult to make a case for further research in this area.

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